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10/018,319	04/25/2002	Manfred Stefener	GRUNP117	1648

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CREPEAU, JONATHAN	
ART UNIT	**PAPER NUMBER**
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/018,319
Filing Date: April 25, 2002
Appellant(s): STEFENER ET AL.

Thomas M. Champagne
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 28, 2006 appealing from the Office action mailed July 10, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,641,585	LESSING et al	6-1997
5,976,725	GAMO et al	11-1999
6,268,077	KELLEY et al	7-2001
6,638,654	JANKOWSKI et al	10-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 23-29, 74, and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lessing et al (U.S. Patent 5,641,585) in view of Kelly et al (6,268,077), Gamo et al (5,976,725), or Jankowski et al (6,638,654).

Lessing et al. teaches a miniature ceramic fuel cell that is supported on a consumer device such as a mobile telephone (see Fig. 1). As shown in Figures 1 and 2, both the fuel and ambient air are pumped to the fuel cell using pumps (22, 26). The fuel is contained in a tank (18) that is mounted on the consumer (see Fig. 1). Regarding claim 25, the fuel cell is operable on hydrogen (see col. 4, line 63). Regarding claims 24, 28, 74, and 75, the pumps are capable of being controlled in the claimed manner.

Lessing et al. do not expressly teach that the fuel tank is a module that "can be inserted into the consumer" as recited in claim 23.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use such a removable fuel tank in the system of Lessing. It is apparent that the fuel tank of Lessing contains a fixed volume fuel. As such, when the fuel supply is depleted, it would be expedient to be able to simply replace the fuel tank. Therefore, the artisan would have motivation to use a removable fuel tank. Further, it has been held that making integrally connected elements separable from each other is generally not sufficient to distinguish a claim over the prior art. See *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961); MPEP 2144.04.

As evidence that removable fuel tanks are known in the art of portable fuel cell systems, the following references are noted: Kelly et al (discloses a portable device having fuel cell with a removable fuel tank in column 3, line 42); Gamo et al (discloses a removable tank (200) and associated valve structure in a fuel cell system for use in a portable device); and Jankowski et al (teaches a MEMS-based fuel cell system comprising a modular fuel cartridge which can be "easily replaced or recharged" (col. 3, line 13)). Each of these references qualifies as prior art against the instant application. As such, the artisan would be sufficiently skilled to use any of the technologies disclosed in the references for making the fuel tank of Lessing et al. removable. Therefore, the use of a replaceable fuel tank in the system of Lessing et al. is not considered to represent an inventive step.

(10) Response to Argument

Appellant's position is that the claimed invention is not obvious over the cited references because the teachings of the secondary references "are not compatible with" the teachings of Lessing et al (brief, page 8). Regarding Lessing et al, Appellants state that the housing enclosure disclosed at column 4, line 37 (but not shown in Fig. 1) "would preclude the use of an exchangeable fuel tank, and thus the Lessing et al. teach away from the claimed invention." It is respectfully submitted that such disclosure cannot be characterized as "teaching away" from a removable fuel tank. The fact that the fuel tank, among other components, is encased by the housing does not preclude it being a removable or exchangeable tank. For example, a conventional cellular phone battery may be located within the phone housing but is removable. As such, the above passage is not seen to teach away from the claimed invention.

Regarding the above assertion that the teachings of the secondary references "are not compatible with" the teachings of Lessing et al, Appellants have not offered support for this argument other than the allegation of the "teaching away" noted above. Appellants state that three basic criteria must be met to establish a *prima facie* case of obviousness: a suggestion or motivation to modify the references; a reasonable expectation of success; and the teaching or suggestion of all claim limitations in the references. It is submitted that all three criteria have been met here. Regarding the motivation to modify the Lessing et al. reference, such motivation is found in each of the secondary references. Gamo et al. disclose at column 4, line 38 that "[m]oreover, as mentioned below, the connection portion 3 has a structure for detaching the hydrogen occlusion alloy container 2 from the piping 6a, that is, from the fuel cell 1, so that the

hydrogen may be refilled or the hydrogen occlusion alloy container 2 **may be replaced easily**" (emphasis added). Kelley et al., at column 3, line 39, discloses that "[t]he fuel delivery means 120 can be directly coupled to the fuel storage means 110, or it can be optionally coupled to it by a miniature quick disconnect 130. **This allows for a quick an easy removal of the fuel tank when it is empty, and also allows the user to easily reconnect a new fuel tank.** Depending on the design, the fuel tank can be disposable or refillable" (emphasis added). Jankowski et al. disclose at column 3, line 12 that "[t]he MEMS-based fuel cell may incorporate a fuel reservoir as part of a package approach, or a modular cartridge **which can be easily replaced or recharged**" (emphasis added). Thus, it is seen that each of the secondary references teaches the feature missing from Lessing et al., provides the requisite motivation to make the proposed combinations of references, and provides basis for a reasonable expectation of success in making the proposed combinations. Accordingly, it is submitted that a proper *prima facie* case of obviousness has been established by the Office. Appellants have not convincingly explained why the artisan would *not* have been motivated to perform the modifications proposed by the Examiner, and have also have not explained how the teachings of the references are incompatible with each other. The secondary references provide detailed teachings and guidance as to how a skilled artisan would be able to design a removable fuel tank for use in Lessing et al. For these reasons, Appellant's claims do not define subject matter that contributes an inventive step over the prior art.

With regard to claims 26 and 27, Appellants state that "[i]t is not clear whether Lessing et al. provide or suggest a pump device on the consumer side." However, it is submitted that the

pumps (22, 26) of Lessing et al. are indeed provided "on the consumer side" because they are located on the cellular telephone, which corresponds to the claimed "consumer."

With regard to claim 29, Appellants state that Lessing et al. "do not disclose or suggest a pump that is designed as a ventilator device for supplying atmospheric air from the environment." However, since the pump of Lessing supplies ambient air to the fuel cell, the pump therefore functions as a "ventilator device for supplying atmospheric air from the environment," as claimed.

Regarding claims 24, 28, 74, and 75, which recite that the pumps "can be adjusted" to affect the output of the fuel cell, the claim language does not positively recite the control scheme of the pumps and merely requires the *capability* to be controlled in the claimed manner. As the pumps of Lessing et al. are capable of being controlled in this manner, the claim language is met by the reference.

(11) Related Proceeding(s) Appendix

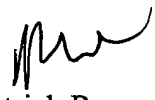
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

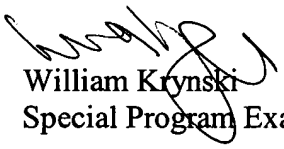
Respectfully submitted,

Jonathan Crepeau
Primary Examiner, Art Unit 1745

Conferees:



Patrick Ryan
Supervisory Patent Examiner, Art Unit 1745



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